



**REVISED PROPOSALS
FOR THE
REGULATION OF
MOBILE PCB
DESTRUCTION FACILITIES**

May, 1984

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**Ministry
of the
Environment**

The Honourable
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EXECUTIVE SUMMARY

The Ministry of the Environment is proposing to facilitate the destruction of waste polychlorinated biphenyls (PCBs) in portable waste facilities. To regulate the operation and siting of these mobile PCB destruction facilities, a regulatory and administrative package is being proposed which will consist of:

- a) a specific regulation under the Environmental Protection Act which will set out the standards and criteria for siting and operation of facilities;
- b) an amendment to Regulation 293 under the Environmental Assessment Act which will relieve proponents of the requirement to undertake an environmental assessment where public lands are proposed for the siting of a facility and/or a public sector client wishes a private sector operator of a facility to dispose of its PCB wastes;
- c) testing requirements by which proponents may demonstrate that their facilities can comply with Ministry standards, criteria and guidelines;
- d) administrative procedures referred to in this document.

The regulatory package and supporting documentation will be issued for public comment and discussion via direct mailings to municipalities, industry, public interest groups, potential proponents and other interested parties and at a series of open house information sessions. Based on inputs received, the regulatory proposals will then be revised and submitted to a

public hearing under the Public Inquiries Act. The public hearing and public consultation will focus on the 18 municipalities in Ontario where most in-service PCB and PCB wastes are located, and which are the most likely candidate areas for siting of facilities.

The regulation will address the approval and siting of two classes of mobile PCB destruction technologies, specifically technologies for the destruction of high level PCB wastes and decontamination technologies for low level PCB wastes.

Standards for spill prevention, emission control and environmental protection around facilities are based on applicable existing regulatory standards and guidelines and will be applied in conjunction with rigorous operational controls and performance standards.

Facilities will be required, through conditions on certificates of approval, to be continuously monitored and controlled using automatic shut-down mechanisms in the event of process upsets.

Proponents will be required to maintain accurate records of waste receipts and disposal, as well as of operating parameters. Facilities will be inspected regularly by Ministry staff.

Proponents will be required to prepare and file a contingency plan and to have on site emergency response facilities to deal with spills, accidents and process upsets.

A minimum separation distance between operating facilities and sensitive land uses will be incorporated into the regulation. In addition, a mechanism for public notification and/or involvement in the selection of specific sites will be identified.

The regulatory and administrative package, including requirements for testing and demonstration of facilities, will supplement technical approvals under Part V of the Environmental Protection Act. The public hearings on the proposed regulatory and administration package will allow for public input into the rules and procedures to be followed for operation and siting of these facilities in Ontario. The current public hearing requirements of Part V of the Environmental Protection Act will not be applicable.

The Environmental Assessment Act will not apply where public sector involvement is limited to ownership or control of a proposed site for a facility or the disposal of public sector waste in a private sector facility.

I. Introduction

The use of PCBs (polychlorinated biphenyls) is presently restricted to PCBs inservice in closed systems purchased prior to 1977. PCBs and PCB contaminated equipment no longer inservice are stored in approved waste storage facilities. In general terms, any substance that contains more than 0.005% by weight or 50 ppm of PCB is considered to be a PCB waste. There are presently no approved facilities for destruction of PCBs in Canada. The Ontario Ministry of the Environment is proposing to facilitate the destruction of PCB waste using portable facilities.

In February 1983 the Ministry released a discussion paper entitled "Guidelines for the Regulation and Siting of Mobile PCB Destruction Facilities"⁽¹⁾. This document was circulated to the 180 Ontario municipalities where PCBs are presently in use or in storage awaiting disposal and to 350 public utilities and various government agencies, potential proponents, industry associations and public interest groups. The total mailing exceeded 700 copies.

The objective of the paper was to outline the basis for a regulation under the Environmental Protection Act ⁽²⁾ which would set out the terms and conditions under which mobile PCB destruction facilities might be established.

On the basis of responses to the discussion paper, and taking into consideration the regional distribution of in-service PCB and PCB wastes, these revised proposals have been prepared.

The objectives of this document are:

- (1) to define mobile PCB destruction facilities;
- (2) to describe the regulatory framework proposed for the control of the operation and siting of mobile PCB destruction facilities;
- (3) to explain the means by which public input to the regulatory proposals will be sought; and
- (4) to identify and explain the standards, guidelines and criteria which mobile destruction facilities will be required to meet and which will form the basis of approval.

II. Regulatory Proposals

The revised regulatory proposals will comprise the following elements:

(A) Definition of Mobile PCB Destruction Facilities

1. Mobile PCB destruction facilities will be defined as equipment that is operated at a site for a period not to exceed 1440 operating hours (60 days) for the disposal of PCB wastes involving the destruction of the PCB component. The total time (assembly, disassembly, operational and non-operational) at any one site shall not exceed 90 consecutive days.
2. Two classes of mobile PCB destruction facilities will be recognized in the regulatory framework:

- (a) Class 1 facilities handling and processing PCB wastes such that the PCB and associated organic matrix are destroyed by incineration or other thermo-chemical processes.
- (b) Class 2 facilities handling and processing PCB wastes such that the PCB is destroyed by chemical means and the associated organic matrix is recovered for re-use or disposal.

(B) Regulatory Framework:

The regulatory and administrative framework will include:

1. A specific regulation under the Environmental Protection Act which will form the basis for the approval of mobile PCB destruction facilities and sites. The regulation (16) will specify environmental, site selection, operational, record-keeping, monitoring and inspection standards for mobile PCB destruction facilities.
2. Testing procedures to be used to demonstrate that technologies can comply with Ministry standards, guidelines and criteria (17).
3. An amendment (16) to Regulation 293 under the Environmental Assessment Act (3) to permit the use of public lands for the siting of facilities and the destruction of public sector PCB wastes by a private sector operator, without having to carry out an environmental assessment, provided that the requirements of Part

V of the Environmental Protection Act and of the proposed mobile PCB destruction regulation are satisfied.

4. The administrative procedures mentioned in this document.

(C) Public Consultation:

1. Public input to the regulatory proposals will be solicited through public information sessions and meetings with municipal councils, public interest groups, industry associations, potential proponents, professional associations and other interested parties.
2. The regulatory proposals will be revised, taking into consideration the public inputs, and then submitted to a public hearing before a Hearing Panel to be established under the Public Inquiries Act (4). This Act allows the Panel to subpoena witnesses and documents and to hear witnesses under oath. Panel members are expected to be selected from the current membership of the Environmental Assessment Board.
3. The proposed regulatory and administrative framework will supplement technical approvals under Part V of the Environmental Protection Act (2). The public hearings will allow for public input into the rules and procedures to be followed for operation and siting of these facilities in Ontario. The current public hearing requirements of Part V of the Environmental Protection Act (2) will not be applicable. The Environmental Assessment Act (3) will not apply where public sector involvement is limited to ownership or control of a proposed site for a facility or the disposal of public sector waste in a private sector facility.

(D) Approvals:

1. Technologies that have demonstrated that they can meet the existing and proposed regulatory standards as well as existing applicable Ministry guidelines and criteria will be issued a Certificate of Approval under the Environmental Protection Act (2).
2. Facilities that are approved may be sited at any location where proponents have satisfied the site selection standards contained in the regulation (16) and have obtained a site Certificate of Approval under the Environmental Protection Act (2) and any local permits or approvals that may be required.
3. Site approvals will be issued on a time-limited basis. Under this proposal, Class 1 facilities may not be re-established in a local (area) municipality where they have previously been sited within a three year period. Class 2 facilities may only return or be re-established after one year. More frequent siting in any municipality may be allowed provided the prior approval of both the local municipality and the Ministry are obtained.

(E) Demonstration of Technology:

The capability of technologies to achieve the regulatory standards will be established by the submission of test data acceptable to the Ministry and may require an operational demonstration. Any demonstration must be approved by the Ministry and must use test protocols and procedures approved by the Ministry⁽¹⁷⁾.

III Environmental Standards and Objectives

It should be noted that all Ministry guidelines, standards and criteria are amended from time to time to reflect up-to-date scientific information. Facilities will be expected to meet any such changes in requirements. In addition to the requirements specified in this document, the proposed testing requirements (17), the proposed regulation (16) and proposed amendment to Regulation 293 (16), mobile PCB destruction facilities will be subject to existing Ministry environmental standards contained in Ontario Regulations 308 (5), 313 (12) and 11/82 (7). Where applicable, they will also be required to operate in compliance with Ministry objectives and guidelines contained in Provincial Water Quality Objectives (7) and Ministry PCB waste management guidelines and codes of practice (8). More specific requirements will be made the subject of conditions on the appropriate Certificates of Approval.

(A) Air Emissions

1. The maximum concentration of PCB in air at a point of impingement shall not be greater than the 1/2 hour average concentration stipulated in the Ministry's current provisional guideline for PCB (15).

Specifically: 450 ng/m³ 1/2 hour average (see Glossary for definition of units).

The concentration of PCB at a point of impingement is either measured or calculated in accordance with the Appendix to Regulation 308 (5).

2. The maximum concentrations of chlorinated dibenzofurans and chlorinated dibenzodioxins in air at a point of impingement shall not be greater than the concentrations stipulated in the Ministry current provisional guidelines (15).

Specifically:

Chlorinated Dibenzodioxins:

- 1/2 hour average = 450 pg/m³ (maximum)

Mixtures:

$$\text{- 1/2 hour average} = \frac{x}{450 \text{ pg/m}^3} + \frac{y}{450 \times 50 \text{ pg/m}^3} = 1 \text{ (maximum)}$$

Where x - concentration chlorinated dibenzodioxin

Where y - concentration chlorinated dibenzofuran

The concentration of chlorinated dibenzodioxins and dibenzofurans at a point of impingement shall be calculated in accordance with the Appendix to Regulation 308 (5).

- (3) Provincial standards for other parameters as specified in Regulation 308 (5) shall not be exceeded at a point of impingement during operations.

Of special note are the following:

Sulphur Dioxide	830ug/m ³	1/2 hour average
Hydrogen Chloride	100ug/m ³	1/2 hour average
Particulates	100ug/m ³	1/2 hour average
Chlorine	300ug/m ³	1/2 hour average
Nitrogen Oxides	500ug/m ³	1/2 hour average
(expressed as NO ₂)		

Certain geographical areas may also be covered by specific regulations related to the control of parameters in Regulation 308, for example Ontario Regulation 151/18 (18) related to sulphur dioxide in the Sarnia area.

(B) Solid Wastes Disposal

Solid residues that originate from mobile PCB destruction facilities shall be disposed or stored in accordance with the following provisions, as set out in Ministry PCB waste management guidelines and codes of practice (8):

(1) PCB contaminated soils, activated carbon, filter media etc:

Less than 50 ppm PCB, dispose in a certified landfill (subject to authorization of the owner/operator) as a non-hazardous waste. Greater than 50 ppm PCB, must be placed in secure storage as PCB waste in accordance with Regulation 11/82 (6) until approved destruction, disposal or decontamination facilities become available.

(2) PCB contaminated drums and containers may be returned to their owners and stored in accordance with Regulation 11/82 (6) as a PCB waste. Alternatively, they may be rinsed three times with a solvent capable of being disposed in the mobile destruction facilities, e.g. diesel fuel, furnace oil, etc. In accordance with published Ministry guidelines (8), the volume of solvent used

for each rinse shall be at least equal to 10 percent of the drum's or container's volume. Rinsed drums and containers may be disposed in certified landfills (subject to the authorization of the owner/-operator) as a non-hazardous waste or recycled for re-use or scrap metal recovery.

- (3) PCB equipment shall not be decontaminated at a mobile PCB destruction facility waste disposal site unless the Certificate of Approval for the site expressly allows such activity. Such equipment must be treated as a PCB waste and returned to the owners to be stored in accordance with Regulation 11/82 (6).

(C) Aqueous Waste Disposal

To achieve compliance with the provincial water quality objective of less than 0.001 ug/l (microgram per litre) PCB in natural waters (7,9), discharges of aqueous effluents containing PCBs must be minimized. Unavoidable aqueous effluents shall be treated or disposed as follows:

- (1) Recirculated cooling waters, surface drainage and other waste water containing up to 5 ug/l PCB may be discharged to a municipal sewage treatment plant, subject to Ministry and applicable municipal approval. The rate of discharge shall be such that the concentration of PCBs in the plant effluent shall not exceed the Ministry's water quality objective for receiving bodies of 0.001 ug/l PCB after mixing and shall meet all other applicable Ministry standards and guidelines.

- (2) Wastewater containing 5 ug/l PCB or greater shall be treated to reduce the PCB content to permit its disposal to a municipal sewage treatment plant or disposal by other means as described in Ministry guidelines (8).
- (3) Discharge of wastewater containing less than 5 ug/l PCB can also be disposed of by spraying it on soil in a manner similar to that used for dust suppression on unpaved roads (1.0 - 1.5 l/m²) (8), provided it meets all other applicable Ministry standards and guidelines.
- (4) Discharge into natural water of wastewaters containing less than 5 ug/l PCB may be approved (in the absence of other alternatives) provided that the rate of discharge shall be such that the concentration of PCBs in the effluent shall not exceed the Ministry's water quality objective for receiving bodies of 0.001 ug/l after mixing.
- (5) No discharge of effluents resulting in concentrations above background levels of chlorinated dioxins and dibenzofurans shall be permitted.

(D) Materials Handling Procedures

Fugitive emissions of PCB vapours, spills and accidental PCB releases must be minimized and contained. Proponents will be required to submit for approval by the Ministry a detailed description of materials handling and control procedures, including equipment design features which are intended to prevent spills and vapour losses. Designs must

take into consideration published Environment Canada (10) and Ministry guidelines and codes of practice (8).

Designs must ensure the use of materials of construction that are compatible with PCB. Flanges, joints and couplings in piping arrangements should be minimized. Tank vents and other sources of vapour loss must be collected and vented through activated carbon cartridges or mixed with combustion air (in incineration processes) in order to control or destroy PCB vapours.

(E) Noise:

Noise levels associated with mobile destruction facilities must be controlled to comply with local municipal noise by-laws where applicable. Noise levels should be limited and at least consistent with ambient levels associated with the industrial or local environment where the facilities are to be located.

IV Site Selection

The following general criteria will be applied to the selection of temporary sites for mobile PCB destruction facilities:

(A) Public Consultation

It is recognized that the public potentially affected by operation of facilities should be notified and involved, if interested, in the selection of a specific temporary site for facilities. Three mechanisms for public

notification and/or involvement are offered for consideration. The selected mechanism will be incorporated into the Ministry's administrative procedures in issuing Certificates of Approval.

- (1) After receiving approval of the site from the Ministry, the operator of a site would give at least thirty days notice of his intention to commence assembly of equipment on the site to the clerk of the municipality in which the site is located and would file with the Ministry a copy of the notice and proof that such notice was properly given, prior to the commencement of the assembly of his equipment. The notice would include the location of the site, the date after which assembly will take place, the approximate amount of material to be handled, the approximate duration of operation at the site, the classification of the site and a brief description of the technology being used.

OR

- (2) Following receipt of an application by the Ministry for the approval of a mobile PCB destruction facility waste disposal site, the applicant would give notice to the clerk of the municipality in which the proposed site is to be located and would publish a notice once in a newspaper having general circulation in the municipality, at least thirty days prior to an approval being issued. The notices would include the location of the site, the proposed classification of the site, the proposed date of commencement of the use of the site, the approximate amount of material to be handled, the approximate duration of operation at the site, a brief description of the technology being used and would invite written public

comment to the Ministry to be received within thirty days of the date of newspaper publication of the notice. The Ministry would consider any written comments received prior to issuing or denying approval of the site.

OR

- (3) Following a receipt of an application by the Ministry for the approval of a mobile PCB destruction facility waste disposal site, the Ministry would establish a committee composed of one representative nominated by the applicant, one representative nominated by the local municipality and one representative nominated by the Ministry to review the site or sites proposed by the applicant and, within thirty days of establishment of the committee, the committee would report to the Ministry with its recommendations. The Ministry would consider the report of the committee prior to issuing or denying approval of the site.

(B) Distance from Receptors:

To address public concerns and fire protection needs (19), a minimum separation distance between operating facilities and certain receptors is proposed. It is also recommended that sites be selected from lands considered suitable for industrial, waste disposal or sewage treatment uses.

(C) Performance Bond:

For both Class 1 and Class 2 facilities, proponents will be required to post a performance bond of \$50,000 to ensure that funds are available

for site restoration in the event that post-operational monitoring demonstrates this to be necessary. Where in the Ministry's opinion it is necessary to have a larger performance bond posted, a condition will be added to the Certificate of Approval for the specific site.

(D) Specific Site Features:

(i) Class 1 Facilities

(a) Facilities and associated equipment and storage containers must be at least 100 metres from occupied public buildings, residences, schools, hospitals, nursing homes, commercial or industrial establishments involved in food processing.

(b) Physical features of the site shall encompass the following:

1. The terrain of the site on which the facilities are to be established shall be level and well graded.
2. Surface materials of sites must allow for prompt and effective clean up of spills. Prevention of migration of spills into ground water is of prime importance when reviewing the suitability of surficial characteristics of potential sites.
3. Facilities and associated equipment and storage facilities shall be at least 100 metres from a watercourse or drainage system or be capable of being isolated from drainage systems or water courses by temporary impoundments and blockage of drains and ditches.

(ii) Class 2 Facilities

- (a) Facilities and associated equipment and storage facilities must be no less than 20 metres from occupied public buildings, residences, schools, hospitals, nursing homes and commercial or industrial establishments involved in food processing.

(b) Physical Features:

Class 2 facilities are designed to deal with PCB contaminated mineral oils where they are located, such as within transformers and storage tanks. Under these circumstances, physical features of sites cannot be regulated. In situations where the Ministry judges that the physical features of the site impede safe and effective decontamination or where the quantity of contaminated oil does not justify the establishment of a facility at the site of the oil, the oil should be removed from the transformer or storage tank for treatment at a location that more closely approaches the physical features for a Class 1 site.

V Operational Controls

(A) Waste Storage and Handling

Sites for mobile PCB destruction facilities are by definition, temporary. Consequently, the storage of wastes at the facility should be minimized. A quantity of wastes no greater than necessary to sustain the operation of facilities for up to 5 days should be stored on site. In

some cases, the destruction facility may be located at an existing PCB waste storage site or a new storage site may be established to collect and consolidate sufficient quantities of wastes to justify the operation of a mobile destruction unit. Approval to establish the PCB waste storage facility, separate and distinct from the approval to locate and operate a mobile destruction facility, is required in such cases (see Regulation 11/82 (6) and Part V, Environmental Protection Act (2)).

All wastes stored at the facility shall be in a specifically assigned feed storage tank or storage area. The storage tank or storage area shall be surrounded by a spill collection tray or impoundment of sufficient capacity to contain 100 percent of the volume of stored waste.

Measures shall be taken to ensure that any waste spillage is safely and effectively contained and that spillage and contaminated materials can be directed immediately to closed containment.

Drum storage of wastes at the facility should be minimized but if it is necessary, drums should be stored in a metal tray or impounded storage area having sufficient capacity to contain 100 percent of the contents of the drums.

Measures should be taken to prevent the accumulation of PCB contaminated snow or rainfall within impoundments and/or spill trays. The use of temporary shelters that can be deployed during precipitation are recommended. Alternatively, collected precipitation must be treated or disposed as an aqueous effluent of the facility (see Section III C).

Drums received for waste storage should be of good quality, free from corrosion and obvious defects, well sealed and clearly identified as containing PCB. Drums that have been used to bring PCB wastes to the facility should be decontaminated, disposed or re-used in accordance with existing Ministry (8) and Environment Canada⁽¹⁰⁾ PCB waste management guidelines and in compliance with Ontario Regulation 11/82 (6).

PCB waste should be pumped not poured into containers. This minimizes fugitive emissions.

Pumps, hoses and other equipment used to handle PCB waste must be inspected by the operator during startup and shutdown of equipment and at least once during an eight hour operating period and replaced as necessary.

To prevent cross-contamination, pumps and hoses handling PCB wastes shall not be used for other purposes unless decontaminated.

(B) Transportation

All waste transportation in Ontario is subject to the general requirements of Part V of the Environmental Protection Act (2) and Regulation 309 (11). Additionally, liquid industrial waste transport is subject to the waybill requirements of Regulation 313 (12). The transportation of PCB wastes from storage facilities is also subject to the requirements of Ontario Regulation 11/82 (6).

Transportation of wastes to the site must be by approved waste haulage contractors specifically authorized to handle PCB wastes and who have the appropriate equipment and trained personnel. Transfers and receipts will be documented under the Ministry of the Environment waybill system (12) and the recording requirements of Ontario Regulation 11/82 (6). Shippers and receivers of wastes are required to record all transactions and to maintain such records for Ministry inspection.

(C) Contingency Plans

When the materials handling and spill prevention measures previously identified are instituted, the probability of a spill incident is remote. In the interests of operational preparedness, a clearly identified and understood procedure must be available to deal with on-site emergencies such as spills, fires and vandalism. Reference should be made to the Province of Ontario Contingency Plan for Spills of Oil and Hazardous Materials (13).

Clean-up procedures shall be established to deal with spills or accidents so that losses are contained and risk of exposure of workers and the general public is minimized. Facilities and material must be available on site to deal immediately with emergencies, including appropriate fire-fighting equipment, protective clothing, sorbents and spill clean-up materials.

The following steps would be incorporated into a contingency plan:

1. Immediate notification of the Ministry of the Environment and local municipal emergency measures authorities providing them with an estimate of the magnitude of the spill or emission and the extent to which PCB has escaped the site area;
2. institution of appropriate personnel protection measures;
3. initiation of immediate measures to recover as much of the spilled PCB liquid as possible;
4. recovery of the remainder with sorbent materials;
5. transfer of sorbent materials, contaminated solid and residues to drums or other appropriate containers as quickly as possible;
and,
6. isolation of precipitation, natural drainage and surface run off from the spill site by temporary diversion ditches and by covering the spill area with plastic sheet.

(D) Security

Provisions shall be made by the proponent for the restriction of public access to the facility to reduce the risks of accidental exposure to PCB and to prevent unauthorized entry and vandalism. Temporary fencing around the site, flood lights and 24 hour security are examples of appropriate security measures which may be appropriate, depending upon the physical setting and location of the site.

(E) Occupational Health and Safety

In general, appropriate standards of safety and hygiene must be employed to avoid direct skin contact with PCB wastes since this is the most likely route of excessive occupational exposure.

Proponents of mobile PCB destruction must review all occupational health and safety measures with the Ontario Ministry of Labour, both in the pre-development stage and the operational phase. Matters such as PCB exposure guidelines, protective equipment and clothing, engineering controls, hygiene practices, monitoring of exposure and medical surveillance of workers must be reviewed with the Industrial Health and Safety Branch of the Ministry of Labour in the context of application of the Occupational Health and Safety Act (14).

VI Records Keeping

Records of incoming wastes, dates of receipt and destruction as well as records of sources and characteristics of wastes shall be maintained by operators of mobile PCB destruction facilities for Ministry inspection, and to provide assurance that only PCB wastes are received and processed at the facility. In addition, records of the quantity and disposition of solid waste and liquid residues shall be maintained and submitted to the Ministry Regional Office following operations. These records would include where the residues were disposed, quantities, dates and authorizations of such disposal.

VII Monitoring and Inspection

(A) General

Pre-operational, operational and post-operational monitoring and inspection will be required for mobile PCB destruction facilities that have received Ministry approval. Monitoring will include both process parameters and environmental quality measurements. All monitoring will be carried out in accordance with sample collection and analysis methods approved by the Ministry (17).

As stipulated previously (Section II[E]) proponents of mobile PCB destruction technologies will have demonstrated through tests (17) of commercial scale facilities that their equipment is capable of achieving PCB destruction with no emissions of unacceptable levels of PCB or hazardous by-products. The review of the results of such tests will form the basis of Ministry approval.

In addition, the test data will be required to confirm that other applicable provincial standards and guidelines can be met.

(B) Operational Process Monitoring

Continuous measurements and records will be maintained of essential process control parameters during operation of mobile destruction facilities. The identity and acceptable range of these essential process

controls will be established during the process of Ministry approval of facilities. Operational compliance with these control parameters will be made a condition to the approval.

Process control measurements will be integrated with waste feed controls such that the facility is safely and automatically shut down if previously determined control limits are exceeded. A shut down facility will not process PCB wastes again until the reasons for the process upset have been determined and corrected. In incineration, (a Class 1 facility), for example, process parameters to be controlled would include combustion temperature, oxygen concentration, carbon monoxide concentration, total hydrocarbon concentration and flow of neutralizing liquid to the scrubber.

(C) Environmental Monitoring

(i) Ambient Air

Ambient air monitoring will be undertaken by the Ministry or contractor authorized by the Ministry on a frequent and random basis around operating facilities to determine whether acceptable air quality is being maintained.

(ii) Aqueous Effluents

Operators of mobile destruction facilities shall analyze continuous or batch discharges of aqueous wastes on a regular basis for PCB

and other relevant parameters. Random spot checks on aqueous effluent quality will be carried out by the Ministry or a contractor authorized by the Ministry.

(iii) Solid Wastes

Solid wastes that may arise from operations will be analyzed by the operator of the facility for PCB content prior to disposal. These analyses will be verified on a random basis by the Ministry.

(D) Pre and Post-Operations Site Monitoring

In order to provide confirmation that environmental quality at mobile PCB destruction facility sites is not impaired, measurements of PCB in air, soil and waters at the site and in the vicinity of the site will be undertaken both before and after operations. These measurements will be carried out by the Ministry or by a contractor authorized by the Ministry.

(E) Inspections

The Ministry will, using staff trained to monitor the operation of mobile PCB destruction facilities, maintain a regular surveillance of operating facilities and will undertake inspections on a regular and unannounced basis to ensure that proper conditions and operations are being maintained. Any violation of the conditions on the Certificate of

Approval related to operations shall constitute a basis for immediate shutdown of the facility by the Ministry until appropriate remedial measures are carried out. Inspections will occur not less than once daily during the first week of operation and not less than twice a week during the remainder of operations at each new site.

The Ministry or an authorized contractor will inspect the site within 7 days of disassembly and removal of the facility and will, due to the length of time required for analyses, report on this inspection within 45 days on any remedial measures required. If no remedial measures are required, then the Ministry will relinquish any claims on the performance bond.

In the event that residues of PCB are detected in soils at the site after operation which significantly exceed the levels detected in the pre-operational inspection, the operator of the PCB destruction facilities will be required to undertake remedial measures to restore the site to an acceptable condition, in accordance with Ministry guidelines on handling such soils (8).

VIII References

1. Guidelines for the Regulation and Siting of Mobile PCB Destruction Facilities - A Discussion Paper - Ministry of the Environment, February 1983.
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5. Regulation 308 - Revised Regulations of Ontario, 1980.
6. Ontario Regulation 11/82 under the Environmental Protection Act.
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8. Origin and Management of PCB Wastes - Ministry of the Environment, 1984.
9. Rationale for the Establishment of Ontario's Provincial Water Quality Objectives, Ministry of the Environment, September 1979.

10. Handbook on PCBs in Electrical Equipment - Environment Canada, Environmental Protection Service, December, 1982.
11. Regulation 309, - Revised Regulations of Ontario, 1980.
12. Regulation 313, - Revised Regulations of Ontario, 1980.
13. Province of Ontario Contingency Plan for Spills of Oil and Hazardous Materials - Ministry of the Environment.
14. Occupational Health and Safety Act, - Revised Statutes of Ontario, 1980 Ch. 321.
15. List of Tentative Standards, Guidelines and Provisional Guidelines for Air Contaminants, January 1983, Ontario Ministry of the Environment.
16. Proposed Ontario Regulation under the Environmental Protection Act, Mobile PCB Destruction Facilities and Proposed Regulation to Amend Regulation 293 of Revised Regulations of Ontario, 1980 made under the Environmental Assessment Act.
17. Proposed Testing Requirements for the Demonstration of Mobile PCB Destruction Facilities, May, 1984.
18. Regulation 151/81 - Regulations of Ontario, 1980.
19. Fire Marshall's Act, RSO 1980, Chapter 66, Section 18(4).

IX GLOSSARY OF TERMS

ppm = parts per million = milligrams per litre (kilogram)

ppb = parts per billion = micrograms per litre (kilogram)

mg/m³ = milligrams per cubic metre

ug/m³ = micrograms per cubic metre

ng/m³ = nanograms per cubic metre

pg/m³ = picograms per cubic metre

milligram = $\frac{1}{1000}$ one thousandth of a gram

microgram = $\frac{1}{1,000,000}$ one millionth of a gram

nanogram = $\frac{1}{1,000,000,000}$ one billionth of a gram

picogram = $\frac{1}{1,000,000,000,000}$ one trillionth of a gram.

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